CLAIMS

1. Method for making a thin layer (23) starting from a wafer (20) comprising a front face divided into surface elements and with a given relief, and a back face, comprising steps consisting of:

a) obtaining a support handle (10) with a face (11) acting as a bonding face;

b) preparing the front face of the wafer (20), this preparation including incomplete planarisation of the front face of the wafer, to obtain a bonding energy E_0 with the bonding face (11) of the support handle (10), between a first value corresponding to the minimum bonding energy compatible with the later thinning step, and a second value corresponding to the maximum bonding energy compatible with the subsequent desolidarisation operation, the bonding energy E_0 being such that $E_0 = \alpha E$, where E is the bonding energy that would be obtained if the front face of the wafer was completely planarised, α is the ratio between the incompletely planarised surface of the front face of the wafer and the surface of the front face of the wafer if it were completely planarised;

c) solidarising the front face of the wafer (20) on the bonding face (11) of the support handle (10), by direct bonding;

d) thinning the wafer (20) starting from its back face until the thin layer (23) is obtained;

e) transferring the surface elements from the thin layer onto a usage support, involving separation from the support handle.

2. Method according to claim 1, characterised in that α is between 0.4 and 0.8.

3. Method according to either claim 1 or 2, characterised in that all surface elements are transferred onto the usage support in step e).

4. Method according to either claim 1 or 2, characterised in that surface elements are transferred individually in step e), step b) is carried out so as to obtain a bonding energy E_0 for each surface element, step e) being preceded by a step in which the thin layer is cut into surface elements.

5. Method according to either claim 1 or 2, characterised in that the surface elements are transferred by groups of surface elements in step e), step b) is carried out so as to obtain a bonding energy E_0 for each group of surface elements, step e) being preceded by a step in which the thin layer is cut into groups of surface elements.

6. Method according to either claim 4 or 5, characterised in that the support handle is cut at the same time as the thin layer is cut.

7. Method according to any one of claims 4 to 6, characterised in that the cutting step is made by combining a deep etching step of the thin layer and a sawing step.

8. Method according to any one of claims 1 to 7, characterised in that the part of the wafer from which the thin layer will be obtained includes semiconducting material.

9. Method according to claim 8, characterised in that the surface elements are composed of complete or incomplete electronic components.

10. Method according to any one of claims 1 to 9, characterised in that in step b), the incomplete planarisation is done by a mechanical-chemical polishing method.

11. Method according to any one of claims 1 to 10, characterised in that in step d), the wafer is thinned by a mechanical, chemical or mechanical-chemical thinning method.

12. Method according to any one of claims 1 to 11, characterised in that in step e), separation from the support handle is achieved particularly by mechanical and / or pneumatic means.

13. Method according to any one of claims 1 to 12, characterised in that in step e), the transfer takes place before separation from the support handle.